

Proposed Groundwater Standards

Wis. Admin. Code NR 140
Cycle 10



Isoxaflutole, Isoxaflutole DKN, Isoxaflutole BA

How is it used in Wisconsin?

Isoxaflutole is a low-use-rate herbicide used for weed control in corn. After an application is made on a corn field, isoxaflutole rapidly changes form in the environment to its phytotoxic-metabolite diketonitrile (isoxaflutole DKN). The DKN metabolite further breaks down to a boric acid metabolite (isoxaflutole-BA). Isoxaflutole was first registered conditionally by the U.S. Environmental Protection Agency (EPA) in 1998, but early use was limited geographically to a limited number of states.

Wisconsin, Minnesota, and Michigan requested the manufacturer complete more fate and toxicity studies because of the compound's rapid leaching potential and plant toxicity at low concentrations. Following negotiations with the manufacturer, the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) approved a limited-use label beginning in 2016. This was contingent on the manufacturer completing ongoing five-year studies at several approved use locations.

Bayer CropScience is currently conducting studies at eight locations in Wisconsin and at other sites in Minnesota and Michigan. Until these studies are complete, current registration in Wisconsin is limited to use on corn in the following 12 counties: Columbia, Dane, Dodge, Fond du Lac, Grant, Green, Jefferson, Lafayette, Rock, Sauk, Walworth, and Waukesha.

What are some products that contain this substance?

Isoxaflutole is in two restricted-use herbicide products sold for use on corn in Wisconsin: Corvus Herbicide and Balance Flexx Herbicide.

Who manufactures this substance?

Bayer CropScience.

Why has this substance been recommended for establishment of groundwater standards?

Although isoxaflutole use is limited to 12 Wisconsin counties, its use is expected to increase in the coming years.

This increase is due in-part to anticipated marketing by the manufacturer as well as demand for new products that control weeds resistant to existing herbicides. Isoxaflutole use could also increase as products intended for use on tolerant soybeans are registered and approved. With increased use comes increased chances for accidental spills and groundwater impacts. New standards will help homeowners and state agencies make decisions about ongoing water use and public health where detected in well water.

What are the proposed standards?

For isoxaflutole and isoxaflutole DKN (combined):

- Enforcement standard: 3 µg/L (micrograms per liter)
- Preventive action limit standard: 0.3 µg/L

For isoxaflutole-BA:

- Enforcement standard: 800 µg/L
- Preventive action limit standard: 160 µg/L

Has this substance been detected above the proposed groundwater standards?

No. Isoxaflutole use is currently limited in Wisconsin and DATCP began testing for these compounds in 2015.

Where can I find more information?

- This and other pesticides:
https://datcp.wi.gov/Pages/Programs_Services/GroundwaterStdsPesticides.aspx
- Health-based standards:
<https://www.dhs.wisconsin.gov/water/gws.htm>
- NR 140 rule process:
<https://dnr.wi.gov/topic/Groundwater/NR140.html>

Who do I contact for questions?

DATCP Groundwater Specialist
(608) 224-4503
datcpgw@wisconsin.gov

This fact sheet provides general information for this pesticide ingredient. A groundwater quality standard has been proposed for this substance in accordance with state law (Wis. Stat. § 160).

